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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,497	03/08/2001	Koji Furutani	36856.445	8899

7590 10/22/2004  
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EXAMINER	
PHU, SANH D	
ART UNIT	PAPER NUMBER
2682	

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/801,497	<b>Applicant(s)</b> FURUTANI ET AL. 	
	<b>Examiner</b> Sanh D Phu	<b>Art Unit</b> 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,7-11,14 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,7-11,14 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,6,12,13,15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is responsive to the amendment filed on 8/3/2004.

#### *Claim Rejections – 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1,4,7-9, 11,14,17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glockler et al (6,400,963), newly cited, in view of Chorey et al (6,154,664), prior art of record.

Regarding to claim 1 and 11, see Fig. 1, col. 5 line 4 to col. 6, line 2, Glockler et al discloses a mobile communication device/dual band cellular phone (see Fig. 1) having a plurality of communication systems supporting different frequency bands, comprising:

an antenna (42) (see Fig. 1);

a transmitter (TX1, TX2) for each of the plurality of communication systems (see Fig. 1);

a receiver (RX1, RX2) for each of the plurality of communication systems (see Fig. 1);

a diplexer (40) transmitting transmission signals from the plurality of communication systems to said antenna and distributing reception signals received via said antenna to the plurality of communication systems (see Fig. 1, col. 5 line 4 to col. 6, line 2).

a high-frequency switch (24, 26) for each of the plurality of communication systems, arranged to switch the signals between said transmitter and said receiver, said high frequency switch being directly connected to said diplexer (see Fig. 1,); and

Glockler et al does not disclose a directional coupler and gain control circuit, as claimed

However, Chorey et al disclose (see Fig. 3B) a directional coupler (12) between a diplexer (19) and an antenna (2) extracting portions of the

transmission signals, and sending the results to an automatic gain control circuit (8) (See col. 5, lines 1–8).

At the time of the invention was made, it would have been obvious for one skilled in the art to include in Glockler et al system a directional coupler and a controller wherein the directional coupler places between a diplexer and an antenna in order to extract portions of RF signal to an amplifier controller in the transmitter, as taught by Chorey et al, so that the controller is able to control gain and offset of the output transmission power automatically without adjusting manually.

Therefore, it would have been obvious to combine Glockler et al's with Chorey et al's to obtain the invention as specified in the claim 1 and 11.

Regarding to claim 4 and 14, Glockler et al teaches filters (76), which are being arranged subsequent to high-frequency switches and being connected to receivers (see Glockler et al, Fig. 6).

Regarding to claim 7 and 17, Glockler et al in view of Chorey et al further teaches that said plurality of communication systems include DCS and GSM systems (see Chorey, col. 1, lines 11–25).

Regarding to claim 8 and 18, Glockler et al teaches that a filter (86) is provided between said transmitters and said high-frequency switches (see Glockler et al, Fig. 6).

Regarding to claim 9 and 19, Glockler et al in view of Chorey et al further teaches that a directional coupler includes a port (see Chorey, col. 5. lines 44–45).

4. Claim 10, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glockler et al (6,400,963), newly cited, in view of Brandt (6,332,071), prior art of record.

Regarding to claim 10 and 20, Glockler et al does not teach inductance elements in said diplexer.

However, Bandt teaches that said diplexer includes inductance elements (21,23,25) and capacitors (22,24,26) (see Brandt, see Fig. 5, col. 4, lines 46–60).

At the time of the invention was made, it would have been obvious for one skilled in the art to modify the diplexer with inductance elements in order

to control dual band, as taught by Brandt, so that Diplexer switches properly between two bands.

***Allowable subject matter***

5. Claims 2,3,5,6,12,13,15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding to claim 2,3,5,6,12,13,15 and 16, non of the prior of record teaches the multiplayer substrate includes having a laminated body defined by a plurality of dielectric layers, the multiplayer substrate having said diplexer, said high-frequency switches, said directional coupler, the inductance element, the capacitor element, the primary line and secondary line.

***Response to Arguments***

Applicant's arguments with respect to claims 1,4,7-11,14,17-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D Phu whose telephone number is (703) 305-8635. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax




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phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-8635.

Sanh D. Phu  
Examiner  
Art Unit 2682

SP

  
LEE NGUYEN  
PRIMARY EXAMINER